QSD2216C16-250 User's Manual

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Safety Precautions

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of insulated dangerous Voltage within the product's enclosure that may be sufficient magnitude to constitute risk of electrical shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

Attention: installation should be performed by qualified service Personnel only in accordance with the National Electrical Code or applicable local codes.

Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is the ON position. The power cord is the main power disconnect for all units.

CAUTION: Danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instruction.

Warranty and Service

During the warranty period (one year), we will repair or replace the hard drive, or other defective components free of charge.
Be sure to have the model number, serial number and vendor sticker on hard drive for service representative.

About this document

Before installing this stand alone DVR, be sure to thoroughly review and follow the instructions in this Users Manual. Pay particular attention to the parts that are marked ***NOTICE.***
Also, when connecting with external devices first turn the power OFF and follow manual instruction for appropriate installation.

Before reading this document

1. This document is intended for both the administrator and users of this stand alone DVR Model.
2. This manual contains information for configuring, managing and using this stand alone DVR Model.
3. To prevent fire or electrical shock, do not expose the product to heat or moisture.
4. Be sure to read this manual before using this stand alone DVR Model.
5. For questions and technical assistance of this product, contact Q-see.

►Strong recommendation on installation of the DVR unit

1. Verify that the electricity at the place you want to install the DVR unit is stable and meets our electrical requirements.
   Unstable electricity can cause malfunction of the unit or cause critical damage to the unit.
   Notice: We also STRONGY recommend that you plug the DVR and cameras into a Transient Voltage Surge Protector (UL-1449 rating). Look for a clamping voltage of 330 or lower, Joule rating of at least 400, and a response time of 10 nanoseconds or less.
2. Several chips on the main board of the DVR unit and hard drive inside the unit generate heat and it must be properly discharged.
   Do not put any objects near the exhaust port (fan) on the left side of the unit and do not block the opening (fresh air in-take) on the right side of the unit..
3. Put the DVR unit in a well-ventilated place and do not put heat-generating objects on the unit. When it is installed inside 19 inch mounting racks together with other devices check that the built-in ventilation fan of the rack is properly running.

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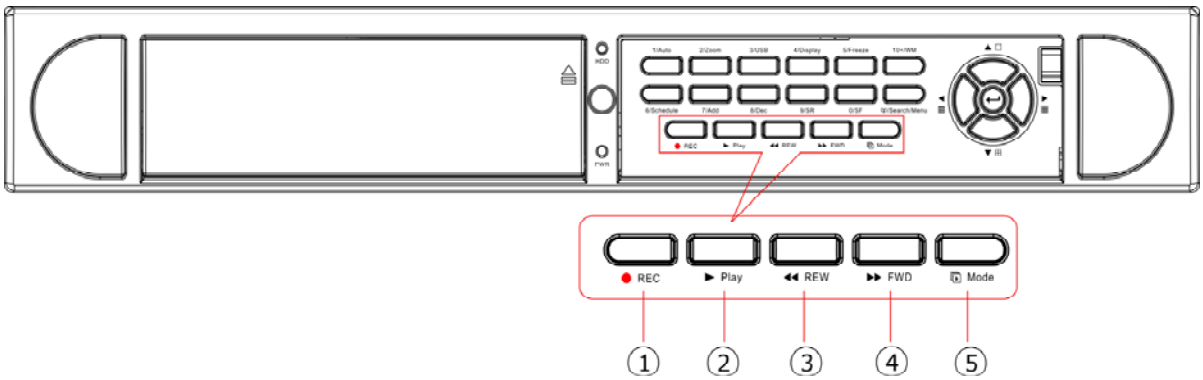
1. FEATURES AND FUNCTIONS

- Video input: 16channels; Video output: 3channels.
- Audio input: 4channels; Audio output: 2channels.
- 16 alarm input and 1 relay alarm output.
- Compression mode: MJPEG.
- Supports network view.
- Supports USB backup.
- Compatible with NTSC and PAL format.
- Supports zoom, auto function, watermark security.
- Four levels of image quality: very high, high, normal, low. Record and playback frame rate is changeable for recording.
- Supports alarm recording, time recording.
- Supports motion detection functions.
- Multi-function searches: is able to distinguish different alarm records and time records from ordinary records; is able to search by time, by segment or by event.
- Supports various playback modes: pause, several fast forward and backward play modes.
- Equipped with remote control and PTZ control enabled (RS485).
- Triplex operation can play back and search while it is recording.
- 480 frames (NTSC, PAL is 400) per second for viewing, 120 frames (NTSC, PAL is 100) per second for recording, shared by all cameras.
- One ATA-100 Hard Drive Interface, supports 500GB.

2. DESCRIPTION OF FRONT PANEL



2.1 Record/Playing Control Buttons

1. REC: this is the manual recording button. Press this button to record video to hard drive, press this button again, it will stop recording. Recording and stop will work simultaneously on 16 channels. This button doesn't work in schedule mode.

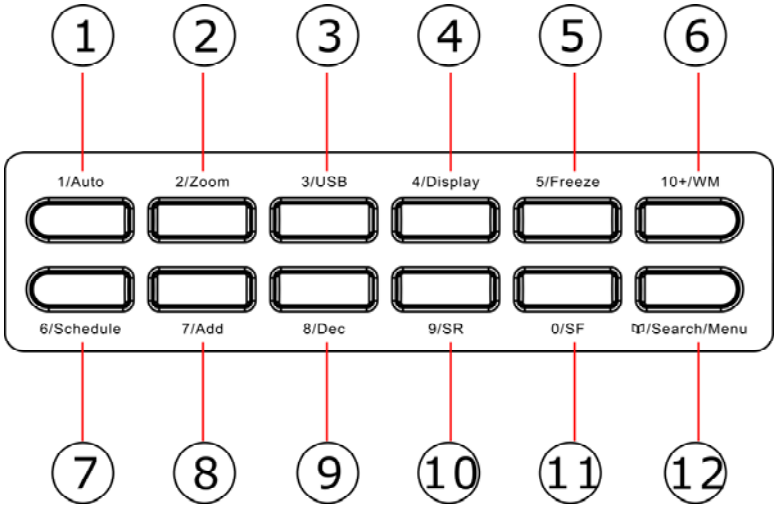
2. PLAY: Press this button to start playing the video stored on the hard drive, Press this button again and it will stop playing. Play and stop will work simultaneously on 16 channels. This button doesn't work during time recording and alarming recording.

3. REW: fast backward button. Press this button to start fast backward playing until you press the play button to start normal playing.

4. FORWARD: fast forward button. Press this button to start fast forward playing until you press the play button to start normal playing. The fast forward function has five speeds; each time you press the button the speed will change to the next fastest level, and then will reverse to the next slowest level after reaching the peak speed.

5. MODE: mode change key, press this key to change to shift mode, Press the key again to change to normal mode.

2.2 Function Control Buttons



1. Auto/1: Auto key, in shift mode, press this button and the DVR will be in auto dwell state, it dwells according to the time set in auto sequence set menu, and you can set the dwell time of each channel. Press this button to quit this mode. If not in shift mode press this button to see channel 1 full screen. When inputting numbers this button is used to enter the number “1”.

2. Zoom/2: Zoom key, in shift mode, press this button and the DVR will be in zoom mode, please refer to 5.10 PTZ Set for details, press zoom button again to cancel zoom operation. If not in shift mode press this button to see channel 2 full screen. When inputting numbers this button is used to enter the number “2”.

3. USB/3: USB key, in shift mode, press this button and the DVR will start USB backup, please refer to 5.8 USB Backup for details, press USB button again to cancel USB backup. If not in shift mode press this button to see big picture of channel 3 full screen. When inputting numbers, this button is used to enter the number “3”.

4. Display/4: Display key, in shift mode press this button to display current information on the screen, press again to clear the information display. If not in shift mode press this button to see channel 4 full screen. When inputting numbers this button is used to enter the number “4”.

5. Freeze/5: Freeze key, in shift mode press this button and the DVR will be in freeze mode. Press this button to quit freeze mode. If not in shift mode press this button to see big picture of channel 5 full screen. When inputting numbers this button is used to enter the number “5”.

6.WM/10+: Watermark button, In shift mode, if the DVR is playing video, you can press this button to see the watermark on the picture. If the video was recorded by this DVR, and has not be changed, there will be a watermark symbol on each picture. Press the watermark key again to clear the display. If not in shift mode press this button and then press 1 to 6 to see channel 11 to channel 16 full screen.

7. Schedule/6: Schedule key, in shift mode press this button to enter schedule mode. If the DVR is in schedule mode there will be an “S” symbol on the screen. Press this button again to quit schedule mode. If not in shift mode press this button to see channel 6 full screen. When inputting numbers this button is used to enter number ”6”.

8. ADD/7: Add key, press this button to see channel 7 full screen. When in system setup menu, this is an increase button. When inputting numbers this button is used to enter the number “7”.

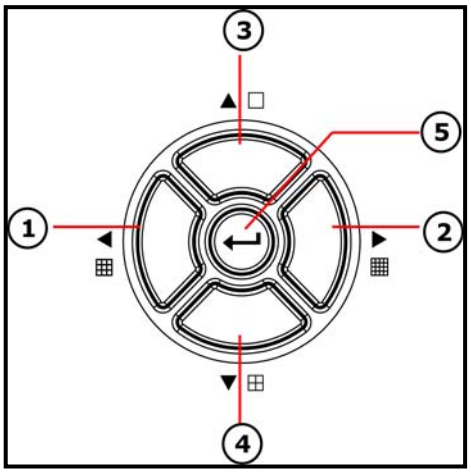
9. DEC/8: Decrease key, press this button to see channel 8 full screen. When in system setup menu this is a decrease button. When inputting numbers this button is used to enter the number”8”.

10. SR/9: Single frame rewind button, in shift mode, while in playback state, hold down this button to see single frame rewind, press play button to play normally. If not in shift mode press this button to see channel 9 full screen. When inputting numbers this button is used to enter the number ”9”.

11. SF/0: Single frame forward button, in shift mode, while in playback state, hold down this button to see single frame forward, press play button to play normally. If not in shift mode press this button to see channel 10 full screen. When inputting numbers this button is used to enter the number ”0”.

12. Search/Menu: Press this button to enter the search menu, refer to 6.7 Search play for details. Hold down this key to enter menu (need password). In menu setup press this key to leave current menu.

2.3 Channel Select Control Buttons



1. Nine pictures/left: Press this button to see nine cameras displayed, press this button again to see eight cameras. When in menu items press this button to move the cursor to the left.

2. Sixteen picture/right: Press this button to see sixteen cameras displayed, press this button again to see thirteen cameras. When in menu items press this button to move the cursor to the right.

3. Big picture/up: Press this button to see cameras full screen, press this button to see the next channel. When selecting menu items press this button to move cursor up.

4. Four pictures/down: Press this button to see four cameras displayed, press this button again to display the next four cameras. When selecting menu items press this button to move cursor down.

5. Enter: When in menu options press this button to select the item. When playing video press this button to pause playing, press play button to continue playing.

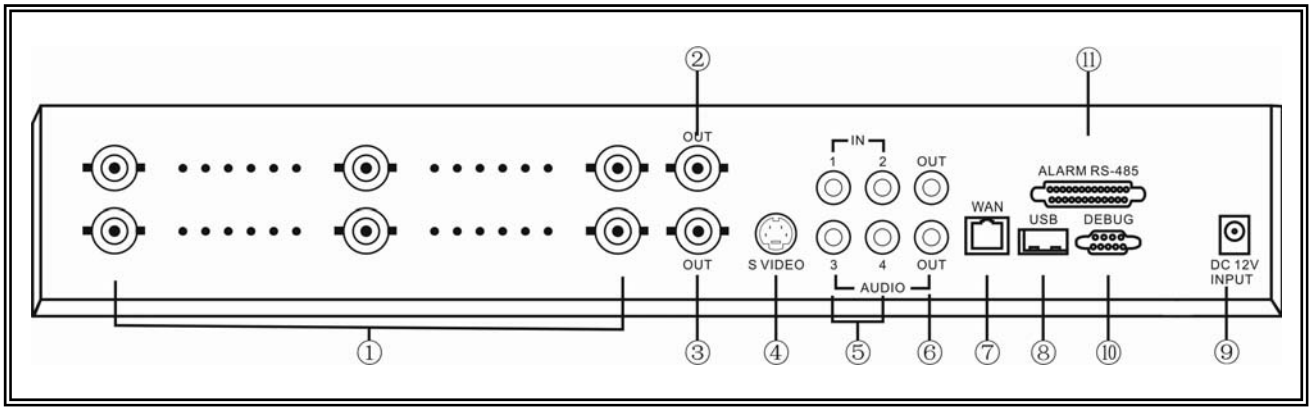
3. REAR PANEL AND SYSTEM CONNECTIONS

3.1 Back Panel Connections

The power cable and input, output signal terminals are all on the back of the DVR, including connections to monitor, cameras, etc. The terminals and sockets on the back panel of the DVR are shown on the illustration below.

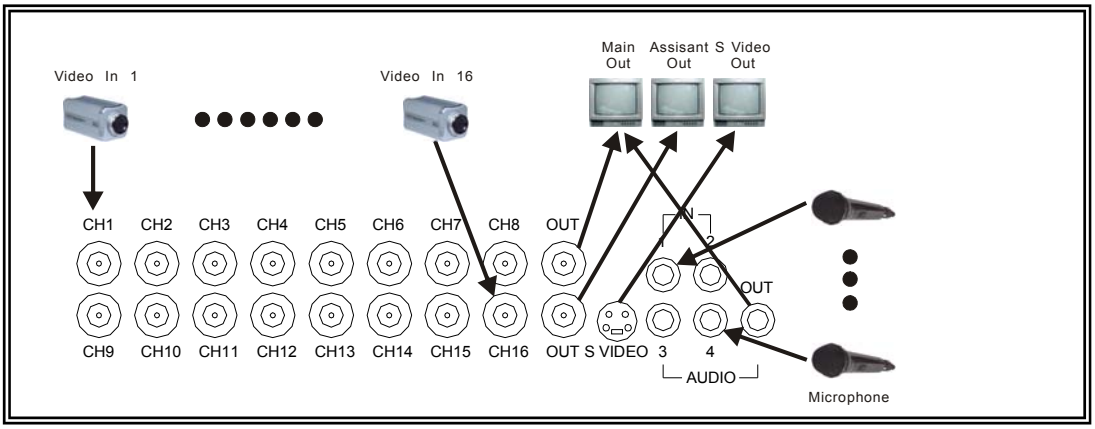
1. Video input CH1-CH16 2. Main Video output 3. Assistant monitor (Second monitor) 4. S-Video out 5. Audio input 6. Audio output 7. Ethernet port 8.USB port 9.power 10.debug port 11.Alarm and RS485port defined:

(1-12: sensor1-sensor12; 13, 20, 24, 25: GND, 14-17: sensor 13-sensor16, 18: RS485A 19: RS48521: COM 22: NC 23: NO)



3.2 Video & Audio Connections

The DVR can support up to 16 cameras video input at the same time.



The DVR can connect 4 channel's audio input, but you can only select one for recording. To display the DVR picture, the DVR video output signal should be transferred to your TV set or monitor. Any TV set that has a "video input" terminal is suitable for displaying the image. The figure above shows the video and audio signal line connection.

Notice: you can only connect one audio input at any one time, which means, if you connect an audio input to CH1, you cannot connect any to CH2 through CH4.

3.3 Alarm Connections

The DVR can support up to 16-alarm inputs and 1 alarm output.

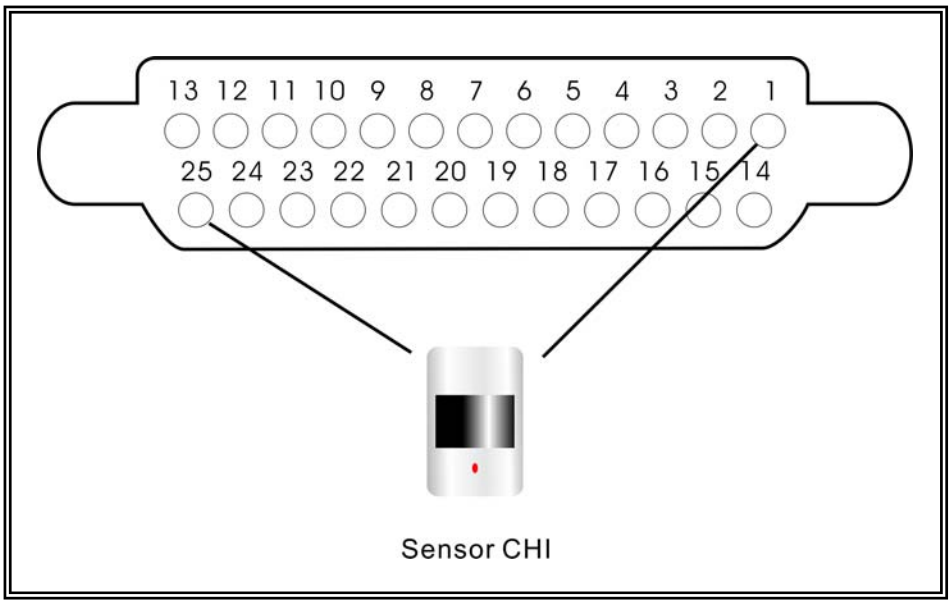
Alarm input: there are two types of alarm input.

1. Voltage output (5V and 0V)

   A: If the sensor outputs high voltage (5V) normally and outputs low voltage when triggered (0V), then users must set the DVR as low voltage alarm.

   B: If the sensor outputs low voltage (0V) normally and outputs high voltage when triggered (5V), then users must set the DVR as high voltage alarm.

Please refer to the picture below, channel 2 to channel 16 are the same as channel 1.

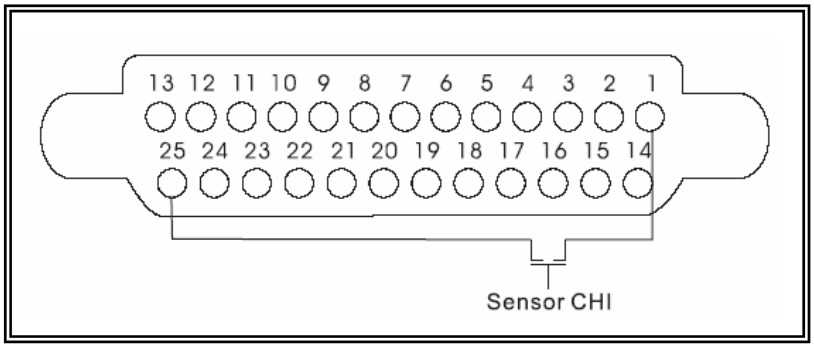


2. Open/Close output

   A: N.O. Normal open, close when triggered. DVR must be set as low voltage alarm.

   B: N.C. Normal close, open when triggered. DVR must be set as high voltage alarm.

   Please refer to the picture below, channel 2 to channel 16 are the same as channel 1.



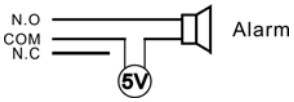
Alarm output:

There are three alarm output pins, the status of these pin are illustrated below:

Before Alarm

After Alarm

There is an example for alarm output connection

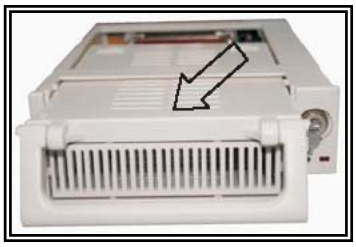


3.4 Hard Drive Installation

Here are instructions to install the hard drive.

Notice: If the DVR comes with a HDD pre-installed then skip the following steps.

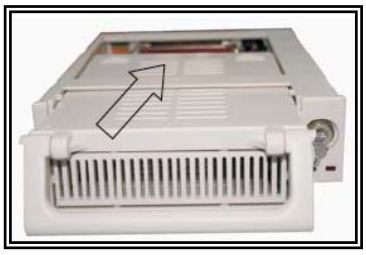
1. Pull out the hard drive rack from DVR



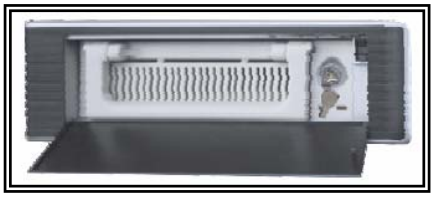
2. Open the top cover of the drawer.

3. Connect the DATA cable & power cord.

4. Close the top cover of the drawer and put HD drawer back into the DVR



5. Lock the hard drive drawer by turning the key clockwise.



If you have another HDD, please set the jumper on that HDD to SLAVE, then open the DVR, put the HDD into the HDD rack, and then connect the power cord and DATA cable to the HDD.

4. REMOTE CONTROL

REC: Start or stop recording

SCHEDULE: Start Schedule recording function

0~9: Select channel or input password

2x2: Display Quad mode on screen

3x3: Display 9-channel cameras on screen

4x4: Display all 16-channel cameras on screen

AUTO: Same with "**Auto**" button on DVR keyboard

DISPLAY: Same with "**Display**" button on DVR keyboard

MENU: Same with "MENU" button on DVR keyboard

W/M: Same with "**W/M**" button on DVR keyboard

SEARCH: Same with "**Search**" button on DVR keyboard

CH +-: Change channel

SET+-: Select channel, address, or speed while in PTZ function

▶▶ Forward button

◀◀ Backward button

▶■**:** Move one frame picture forward in **Pause** mode

■◀**:** Move one frame picture backward in **Pause** mode

ZOOM: Same with "**Zoom**" button on DVR keyboard

FREEZE: Same with "**Freeze**" button on DVR keyboard

5. SYSTEM SETUP

Before using the DVR the first step is to set up the system according to your needs; otherwise the machine will run with the default settings.

5.1 SETUP MENU

When in setup mode, press the UP button or DOWN button, the cursor will move among the settable items. Continuous pressing will make the cursor move among the options one by one and it can repeat. The selected item will display in yellow color.

While choosing digital fields, e.g. year, month, day, hour, minute, second etc, press LEFT button or RIGHT button, the cursor can move left or right among the digits in one field. Continuous pressing will make it move among digits one by one and it can repeat.

Please press LEFT or RIGHT button to change the value of the item that the cursor is on,

Press "ENTER" button to enter sub menu and press menu button to return to previous menu.

Hold down the menu/search button on the keyboard or press the remote control to enter the Setup Main Menu. This will show the password input box. If you enter the wrong password 3 times, then you can't enter the setup menu. Default password is "0000",

If you enter the correct password, the main menu will display as shown below:

5.2 SYSTEM SETUP

Press “ENTER” button to enter sub menu

PLAY REPEAT: Set the Playback Repeat option

VIDEO SYSTEM: Set video format of the DVR as NTSC or PAL

BUZZER SOUND: Set the Buzzer On/Off

5.2.1 TIME/DATA SETUP

Set the date and time.

DATE: Set the date

TIME: Set the time (24 hour format)

FORMAT: Set the time display format (USA, EURO and Asia Users)

DISPLAY: Set the time display on/off

LOCAL: Set the time display position

5.2.2 HDD FORMAT SETUP

Use to format the hard drive.

Select “YES”, to format the hard drive and all video on the HDD will be erased.

5.2.3 FACTORY RESET

If you select Factory Reset; the DVR will reset to factory default settings.

5.2.4 Change Password

Move the cursor to CHANGE PASSWORD and press the Enter button, the Change Password window will appear.

Password Level: There are different levels of password security

SETUP: If set to “YES” you have to input password to enter menu.

SYSTEM: If set to “YES” you have to input password to boot the DVR.

ALWAYS: If set to “YES” you have to input password to enter all operations.

If you select the Password Change and press the Enter button the Password change window will display as shown below:

Please enter the current password then input new password and confirm the password.

5.2.5 Firmware Update

Move the cursor moves to FIRMWARE UPDATE and press the Enter button, the firmware update window will appear.

Update Method: There are two methods to update the DVR's firmware, USB (for USB flash drives) and Network (not supported on this model)

USB update: create a new folder called "firmware" in the USB flash drive's root directory, copy the update file to the folder, and plug in the USB flash drive. Enter the Firmware Update menu, select Update Start and press the Enter button. The system will start updating. When updating is finished, the window below will be displayed, then reboot the DVR.

5.3 DISPLAY SETUP

BOUND COLOR: Set the Color of Video Boundary (BLACK / WHITE / GRAY).

BLANK COLOR: Set the Background Color of Lost Video screen (BLACK / WHITE).

5.3.1 CAMERA NAME SETUP

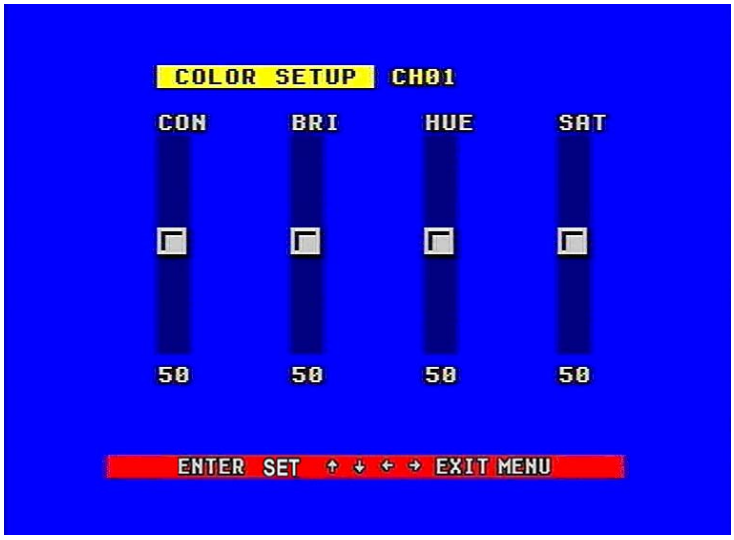
Move the cursor to Camera Name and press the Enter button, the Camera Name Setup window will appear as shown below:

Press the up or down buttons to select channels, press the Enter button to change the channel name.

Each channel's name is a combination of six to eight characters. Press UP or DOWN buttons to select each character, press LEFT or RIGHT buttons to modify each character, and then press the Enter button to save this name.

DISPLAY: if Display is set to "OFF" the channel's name will not display on the screen.

5.3.2 COLOR SETUP



Move the cursor to color set and press the "ENTER" button, the Color Setup window will appear, which is illustrated below.

CON: picture contrast BRI: picture brightness

HUE: picture hue SAT: picture saturation

5.3.3. AUTO SEQUENCE SETUP

Set the Display Time of Auto Sequence. Press “ENTER” button, the auto sequence setup window will appear, which is illustrated below:

AUTOSEQ SETUP
CH01 : 02 SEC
CH02 : 02 SEC
CH03 : 02 SEC
CH04 : 02 SEC
CH05 : 02 SEC
CH06 : 02 SEC
CH07 : 02 SEC
CH08 : 02 SEC
ENTER SET ↑ ↓ ← → EXIT MENU

Set the time of the selected channel. Time can be set in a range from 0 to 99 seconds.

5.4 RECORD SETUP

RECORD SETUP
OVER WRITE : NO
REC SPEED : 50F/SEC
REC QUALITY : HIGH
RESOLUTION : FIELD
PB SPEED : 50F/SEC
RECORD CH SET [↵]
AUDIO CH SET [↵]
AUDIO SELECT : CH01
RECORD LENGTH: 2 HOUR
ENTER SET ↑ ↓ ← → EXIT MENU

OVER WRITE: if set to “YES” the DVR will automatically overwrite the HDD from the beginning when the HDD is full. If set to “NO” the DVR will stop recording automatically when the HDD is full. If there are two HDD in the DVR, when the MASTER HDD is full, the video will be stored on the SLAVE HDD, and when the SLAVE HDD is also full the DVR will overwrite the MASTER HDD.

REC SPEED: the factory default setting for recording frame rate of the DVR is 120F/SEC for NTSC (100F/SEC for PAL), divided among the cameras. This means the DVR records events at the speed of about 8 shots or frames per second per camera. The higher the record frame rate, the more natural the display on the screen will look when you playback. The lower the record frame rate, the more you space you save on the hard drive. The highest frame rate is 120F/SEC NTSC (100F/SEC PAL) when the resolution is set to CIF.

REC QUALITY: There are four video quality settings: VERY LOW, LOW, NORMAL, HIGH and VERY HIGH. The higher the video quality, the clearer the images when you playback. The lower the video quality the more space you can save on the hard drive.

RESOLUTION: The record picture size of the DVR. There are two modes: CIF (360) and Field (720), default is CIF. In Field mode the record picture is twice as large as it is in CIF mode. In CIF mode the REC speed is 120F/SEC NTSC (100F/SEC PAL) and the maximum REC speed in Field mode is 60F/SEC NTSC (50F/SEC PAL).

PB SPEED: The frame rate for playback, default is the same as record speed

RECORD LENGTH (PACKET TIME): When recording manually the time length of each record.

5.4.1 AUDIO CHANNEL SETUP

Move the cursor to Audio CH Set and press the “ENTER” button. The Audio CH setup window will appear which is illustrated above.

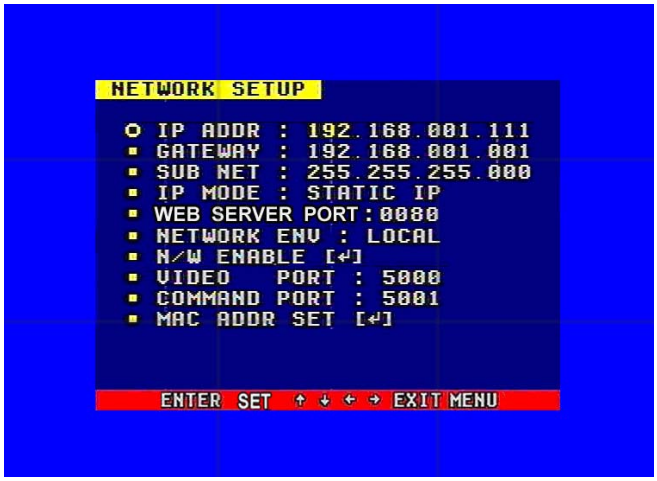
There are four audio input channels, which can be used on any one of the 16 channels. Although there are four audio input channels, you can only record one channel’s audio at a time, so for the audio set you have to select one channel from the four in the Record Setup menu.

5.4.2 RECORD CHANNEL SETUP

Move the cursor to REC CH Set and press the “ENTER” button. The REC CH setup window will appear. This option is only available in Field mode. Press the up and down buttons to select a channel, then press left or right buttons to change the setting. If the channel setting is OFF this channel will not be recorded in recording mode. If the resolution is set to CIF mode the REC CH Setup window is not accessible. Set Record ON/OFF for the selected channels.

5.5 NETWORK SETUP

Move the cursor to Network Setup, then press the “ENTER” button. The network setup menu window will appear, which is illustrated below. If the PC Viewer software for viewing from the Internet is connected to the DVR you can’t access this menu until you disconnect PC Viewer.


NETWORK SETUP
IP ADDR : 192.168.001.111
GATEWAY : 192.168.001.001
SUB NET : 255.255.255.000
IP MODE : STATIC IP
WEB SERVER PORT:0080
NETWORK ENV : LOCAL
N/W ENABLE [↵]
VIDEO PORT : 5000
COMMAND PORT : 5001
MAC ADDR SET [↵]
ENTER SET ↑ ↓ ← → EXIT MENU

IP MODE: the DVR has 2 IP modes, STATIC IP and DHCP. If you select STATIC IP you can set the IP address manually. If you select DHCP mode the DVR will automatically get the IP address from the router the DVR is attached to.

For STATIC IP press up or down buttons to move the cursor among the digits, you can press right or left buttons to modify the digits, also, when you select a digit, you can press the “ENTER” button then press left or right buttons to select each bit of the digit, and then press right or left buttons to modify the bit of this digit. Press “ENTER” to save your changes.

NETWORK ENV: the DVR has three types of different network environments: LOCAL, EXTER_LAN, EXTER_WAN. If on a local network select LOCAL. For internet access choose EXTER_LAN If the internet condition is not very good select EXTER_WAN.

VIDEO PORT: the port the DVR uses to transmit video.

COMMAND PORT: the port the DVR uses to transmit commands.

If you change the VIDEO PORT, COMMAND PORT, or MAC address you have to restart the DVR to use the "PC Viewer" software.

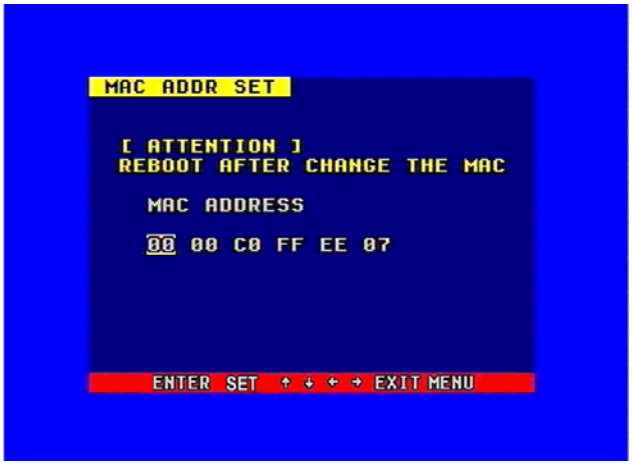
Notice: if you have changed the MAC address, you will not have access to the "MAC ADDR SET" Option.

5.5.1. NETWORK ENABLE SETUP

If you set the channel OFF this channel will not transmit to the network, so if you want to see a channel from network you have to set this channel on.

5.5.2. MAC ADDRESS SETUP

Move the cursor to MAC set then press the “ENTER” button. The MAC set window will appear which is illustrated below:



If you have more than one DVR in a local area network you have to set each DVR to have an exclusive MAC address, but remember that you have only one chance to modify the MAC address, once you have changed the MAC address this menu will no longer appear.

5.5.3 ACCESSING THE DVR FROM A COMPUTER

To access the DVR from a computer you need to make sure the default gateway on the DVR is the same IP address as your router, and the first three sets of numbers of the DVR’s IP address are the same as the first three sets of numbers of the router’s address. Example: if your router’s default gateway is 192.168.1.1 then the default gateway setting in the DVR should be 192.168.001.001, and the first three sets of numbers on the DVR's IP address should be 192.168.001. The subnet on the DVR also needs to be the same as the router, example: if the subnet on the router is 255.255.255.0 the subnet on the DVR needs to be 255.255.255.000. To get the default gateway and subnet of the router go to a computer that is attached to the same router as the DVR, click on the start button, then click on run, then enter cmd into the space and click on OK. At the curser type ipconfig, the default gateway and subnet will be displayed. To connect to the DVR open the PC Viewer program, click on the connect button, type the DVR’s address into the address window, click on the connect button and enter the password for the DVR. Once you get the “connect ok” message, click on the play button and the video should start. To disconnect remember to click the quit button (same as the connect button) to exit the program and release the ports on the dvr. This is important because only one person at a time can connect to the DVR using the PC Viewer program. Refer to 7. Using the PC Viewer software for instructions on using this program

5.5.4 ACCESSING THE DVR FROM A REMOTE COMPUTER

To access from a remote computer, after you complete the above steps you need to forward ports 5000 and 5001 on the router the DVR is attached to, to the IP address of the DVR. How you would do this depends on the brand and model number of your router. You can go to www.portforward.com to get instructions on how to forward ports on most popular routers. This information should also be available in your router's manual. To access your router's program you would open an internet browser window and type the default gateway of the router into the address bar at the top of the window. Then follow the instructions for your router. To connect to the DVR from a remote computer you would then open the PC Viewer program, go to the settings tab and enter the internet IP address of your router. To get the internet IP of your router go to www.myipaddress.com from a computer that is attached to the same router as the DVR. Once you have entered this address into the PC Viewer program, click on the connect button and enter the password for the DVR. Once you get the "connect ok" message, click on the play button and the video should start. To disconnect remember to click the quit button (same as the connect button) to exit the program and release the ports on the DVR. This is important because only one person at a time can connect to the DVR using the PC Viewer program. Refer to 7. Using the PC Viewer software for instructions on using this program

5.6 SENSOR SETUP

Move the cursor to Sensor Set then press "ENTER" button. The Sensor Setup window will appear which is illustrated below: Press UP or DOWN buttons to move the cursor. Press LEFT or RIGHT buttons to change the value.

SENSOR SETUP
CHANNEL SELECT: CH01
ALARM ENABLE: OFF
MOTION ENABLE: OFF
MOTION LEVEL : NORMAL
MOTION AREA SET [↵]
BUZZER TIME : 05 SEC
SENSE RECTIME : OFF
ENTER SET ↑ ↓ ← → EXIT MENU

ALARM ENABLE: sensor alarm trigger switch, it can be set to off, NC or N.O. If users set it to off, the DVR will ignore the alarm input from external sensors.

MOTION ENABLE: motion alarm switch, it can be set to on or off. If users set it to off the DVR's motion alarm will be ignored. If it is set to on then the DVR's motion detection will be enabled.
MOTION LEVEL: motion detection sensitivity level, if the figure in the picture is small please set to high or very high, the default is normal.
BUZZER TIME: buzzer sound time when there is a sensor or motion alarm.
SENSOR RECTIME: after a motion or sensor alarm is triggered the amount of time the DVR will continue to record after the motion stops. The default is 1 minute.

Notice: Users should press the schedule button after setting up the parameters to activate the settings.

5.6.1 MOTION DETECTION SETTINGS

1) When viewing nearby objects (2-10 meters)

When in daytime please set motion detection sensitivity to Normal level; at night please set to low.

2) When viewing far objects in 50-100 meter range

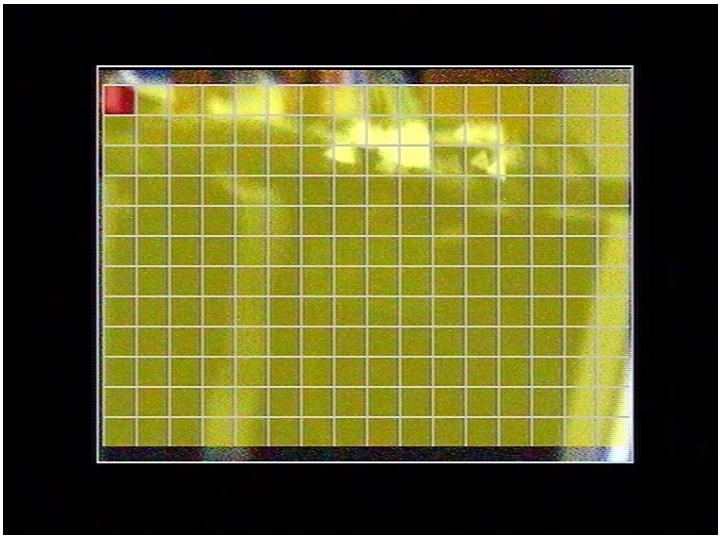
Objects 50-100 meters away will be quite small on the screen. When in daytime please set motion detection sensitivity to high level.

At night set to normal level.

Notice: The above suggestions are a guide based on testing in a general environment. You will need to select the best settings according to the actual operation environment you are covering. Try different settings until you get the desired motion detection result.

5.6.2 MOTION AREA SET

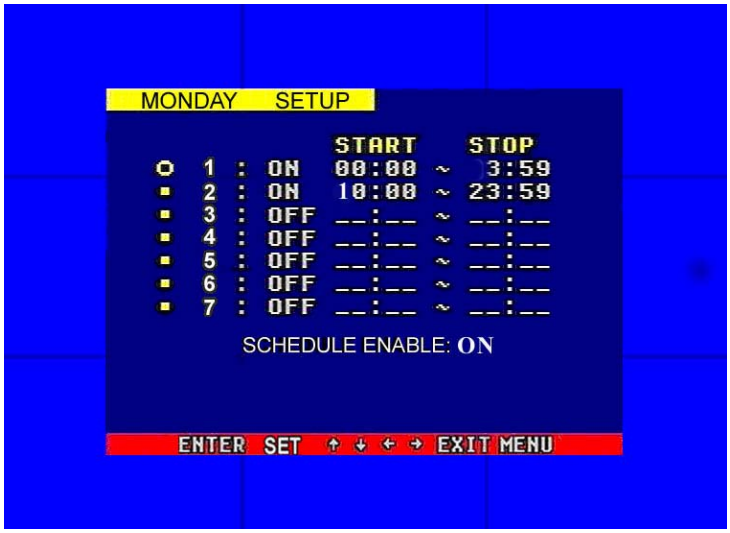
Move the cursor to Motion Area Set, then press the Enter button, and the area setup window will appear. Press the UP, DOWN, LEFT, RIGHT buttons to move the cursor and press the Enter button to change from detection ON to OFF. Press and hold the Enter button to change all values to the same as the area you have selection.



If the area marker icon is set to yellow this area is monitored for motion detection, if the icon is blue motion detection is disabled for that area.

5.7 SCHEDULE SETUP

Move the cursor moves to Schedule Set and press the Enter button. The schedule setup window will appear listing the days of the week. Select a day and press the Enter button and the below window will be displayed.



You can setup a recording schedule for each day by using this setup window. Please note: Military time must be used. You can setup 7 time periods for each day.

START: start record time

STOP: stop record time

SCHEDULE ENABLE: must set to “on”, if want to enable schedule record function

Notice: Manual record mode and schedule record mode (including motion detection record mode, sensor record mode and time schedule record mode) can not be used at the same time. Once the user selects Schedule record mode, manual record mode will disabled; once user select manual record mode, schedule record mode will be disabled.

5.8 USB BACKUP

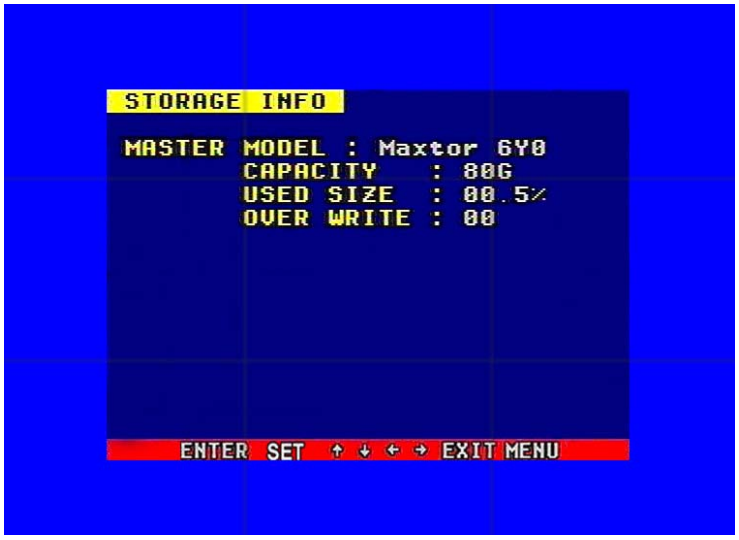
Set the USB BACKUP.

The port on the DVR is designed to work with USB flash drives. Plug in the flash drive and press the “ENTER” button, you will see the menu below:

There are two types of backup mode: STILL and MOVIE, in STILL mode you can backup Pictures and in MOVIE mode you can backup video files.

5.9 STORAGE INFO

Storage information shows the status information on the hard drive as shown below:



CAPACITY: Model Number of the Hard Drive

HDD SIZE: Total capacity of Hard Drive

USED SIZE: Amount of space used on Hard Drive

OVERWRITE: The number of times overwritten

5.10 PTZ SETUP

Set the right protocol, baud rate, and ID and you can control SPEED DOME cameras through the DVR.

Move the cursor to Protocol Set, then press the “ENTER” button, the protocol set window will appear which is illustrated below. Press up or down buttons to move the cursor and press right or left buttons to change the value.

CHANNEL SEL: Select the video channel that is connected to the speed dome that you want to control.

BAUDRATE: Range is from 1200bps to 19200bps.The default is 2400bps.

DOME ADDR: The address of the speed dome, changeable from 0x00 to 0xff.

PROTOCOL: The protocol that DVR needs to use to control speed dome, options include PELCO-P, PELCO-D, NEON, LILIN, default is PELCO-P.

6. QUICK USER’S GUIDELINES

6.1 STARTING THE DVR

Before starting the machine make sure all the items in the “Safety Precautions” at the beginning of this manual are fulfilled.

Also check the system connections including input and output equipment connections and all power connections.

Please insure the video-recorder’s input video (NTSC/PAL) and the monitor (NTSC/PAL) are set correctly for your area.

Insert the removable hard drive case into the slot, and lock it (turn the hard drive lock clockwise); connect the power, the DVR will start up.

6.2 TURNING OFF THE DVR

You normally only turn off the machine when you want to shut the system down. Do not turn off the machine while playing or setting the system up. Especially do not to turn off the DVR while recording.

Press the recording button to stop recording or press the play button to stop playing, or exit from system setup menu, then turn off the power by unplugging the DVR.

If you do not plan to use the video recorder for a long period of time you should pull out the power plug from the electrical outlet.

6.3 MANUAL RECORDING

Connect the power to all related equipment; ensure that there is video input.

Press the display button to check amount of space on the hard drive. If there is not much available space, consider changing the hard drive first or select overwrite mode.

Check recording parameters before recording; select video quality and frame rate (refer to 5.4 Record Setup). You cannot change record settings while you are recording,

Under manual recording mode (non-schedule status), pressing the record button will start recording on all channels.

While in manual recording mode, pressing the record button, and entering the right password will stop recording.

During the process of recording if the hard drive is full, and the system is set to automatic overwrite, then the recording will not be interrupted and will begin to overwrite the earliest recorded area; if overwrite is disabled it will stop recording.

6.4 ALARM RECORDING

Alarm recording is not started by manually pressing record button. Alarm recording can be activated by alarm input signal or motion, so the connection of alarm input equipment must be correct, stable and reliable, and the alarm setup must be right, please refer to 5.6 Sensor Setup. Before the alarm recording can be activated by exterior input signal or the built in motion sensors, in the menu of alarm setup for exterior input alarm, alarm enable of that channel must set to “ON”. For motion alarm, motion enable of that channel must set to “ON”, and motion detect area must be setup, refer to 5.6.1 Motion Area Set.

Alarm and motion video recording cannot be stopped by pressing the record button. You need to stop it setting the alarm or motion enable to off.

6.5 SCHEDULED RECORDING

Scheduled recording starts and stops recording automatically according to the pre-arranged time period. To start scheduled recording, after setting up the record schedule you must press down the schedule button on the front panel to turn the schedule on. While pressing down this button the schedule symbol “S” will display on the screen.

For instructions on setting up a schedule refer to 5.7 Schedule Set.

In scheduled record state you can stop recording during the schedule by pressing the schedule button and entering the password. Make sure the time and date setup is correct before setting up Scheduled recording.

6.6 PLAYBACK

Press the play button and the system will begin to playback the recorded images.

You can use the fast forward and fast reverse buttons to move through the recordings and press the play button to begin normal playing from the current frame.

Continuously pressing the forward button will change the fast-forward speed among five levels (X2, X4, X8, X16, X32). Continuous pressing reward button will change the fast reverse speed among four levels (X2, X4, X8, X16).

During playback mode holding down the single frame rewind button will play backward frame by frame; holding down the single frame forward button will play forward frame by frame. Press the play button to play normally.

Pressing the play button again will stop playing.

6.7 SEARCH PLAY

Press the search button, search play window will display on the screen as illustrated below:

TIME SEARCH: search play by inputting time.

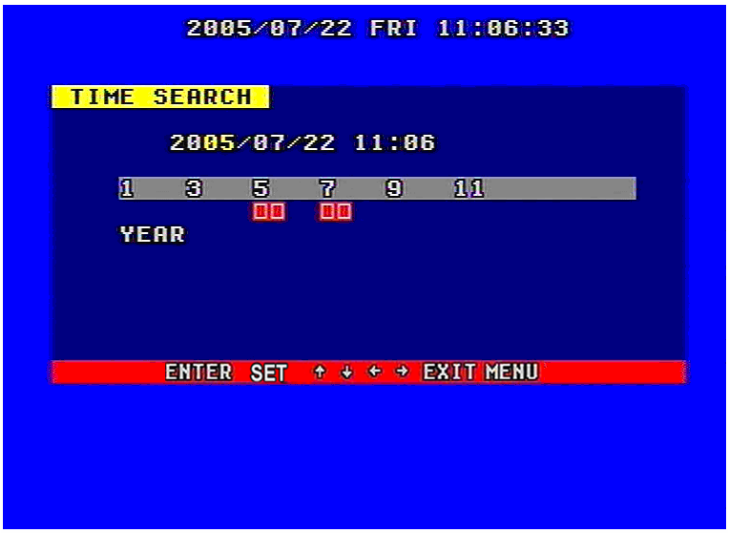
EVENT SARCH: search play by accessing event list.

START STOP SEARCH: search play by segment from list of available recordings.

Press up and down buttons to move cursor, press the “ENTER” button to enter submenu you select. Press search button to quit search menu.

6.8 TIME SEARCH

Move the cursor to Time Search, then press “ENTER” button. The time search window will appear as illustrated below:



A red block during a time period means there is video at that time

Press left and right buttons to move the cursor among year, month, day, hour and minute. If you select the year and press the “ENTER” button you can select month and then day and hour. Press ADD and DEC button to modify the time. If you select the minute and that minute has a red block then you can press the “ENTER” button to play the video from the time you selected.

6.9 EVENT SEARCH

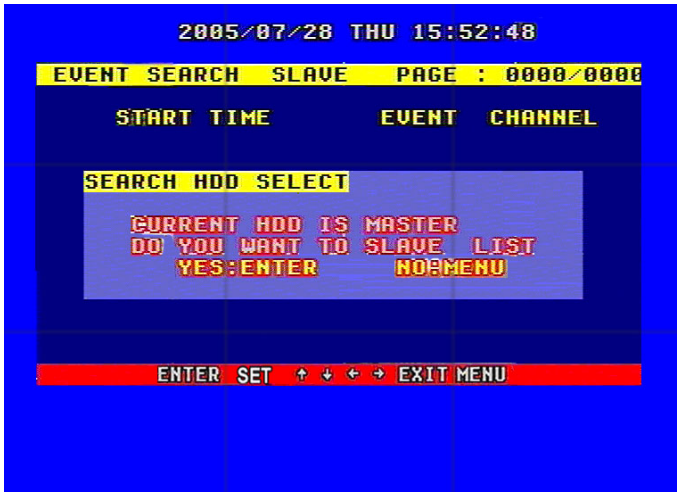
Move the cursor to Event Search, then press the “ENTER” button. The event search window will appear as shown below:

There are four types of event lists: MOTION, ALARM, SCHEDULE and NETWORK. MOTION means motion alarm recording, Alarm means sensor alarm recording, SCHEDULE means pre-set

time recording, NETWORK means network recording

Press up and down buttons to move the cursor among the event lists, press left and right buttons to see previous or next page, press the “ENTER” button to play the file you select. Press search button to return to Search Play menu.

If you want to change the search from MASTER HDD to SLAVE HDD just press the mode key which will display the screen below, then press the “ENTER” key to change. Press menu key to quit.


2005/07/28 THU 15:52:48
EVENT SEARCH SLAVE PAGE : 0000/0000
START TIME EVENT CHANNEL
SEARCH HDD SELECT
CURRENT HDD IS MASTER
DO YOU WANT TO SLAVE LIST
YES:ENTER NO:MENU
ENTER SET ↑ ↓ ← → EXIT MENU

6.10 RECORD SEARCH

Move the cursor to Start Stop Search, then press the “ENTER” button, the Start stop search window will appear as illustrated below:

All record files are displayed here. Press up and down buttons to move the cursor among the file list, press left and right buttons to see previous or next page, press the “ENTER” button to play the file you select. Press search button to return to Search Play menu.

If you want to change the HDD from MASTER HDD to SLAVE HDD just press the mode key, then press the “ENTER” key to change, Press menu to quit.

6.11 USB BACKUP

To use this function the first step is to format the USB device with “FAT” system on your computer, the DVR doesn’t support “FAT32” file system.

Plug in the USB flash drive, go to the Backup set menu, check to verify if the flash drive was detected or not, and if there is enough free space on the flash drive for the file or files you want to backup. Select the backup mode then quit the menu setup.

In shift mode if you select “STILL” for the backup mode in the Backup Set menu and press the USB button, it will begin to backup the picture to the USB device. There will be a ”S” blinking on the screen, when it stops blinking the backup of the picture is done. You can unplug the USB flash drive and see the picture on a computer using the PC Viewer software.

Notice: if you backup still picture, please choose full picture display.

If you select “MOVIE” for the backup mode in the Backup Set menu and press the USB button in shift mode it will begin to backup the video to the USB flash drive from the time selected. Press the USB button again to select the end time of the backup video. There will be an “A” blinking on the screen. This may take a little time depending on the size of the file. Make sure the USB flash drive has enough free space to hold the video file. When the blinking stops the backup is done and you can see the video on a computer with the PC Viewer software.

6.12 USB UPDATE

Create a folder named “firmware” in the USB root directory on the flash drive and copy the update files to the folder. Plug in the USB flash drive, go to the menu of Backup set, check to verify that the flash drive was detected, go to the Firmware Update menu which is shown below, and select USB method. Move to Update Start and press the “ENTER” button. The update will start. After you get the message that the update is ok reboot the DVR.

NOTE: Do not shut down the DVR when the DVR is updating, it may damage the system.

6.13 ZOOM FEATURE (For use with PTZ speed dome cameras)

In shift mode press the zoom button or press the zoom button on the remote control, the DVR will be in zoom mode which is illustrated below:

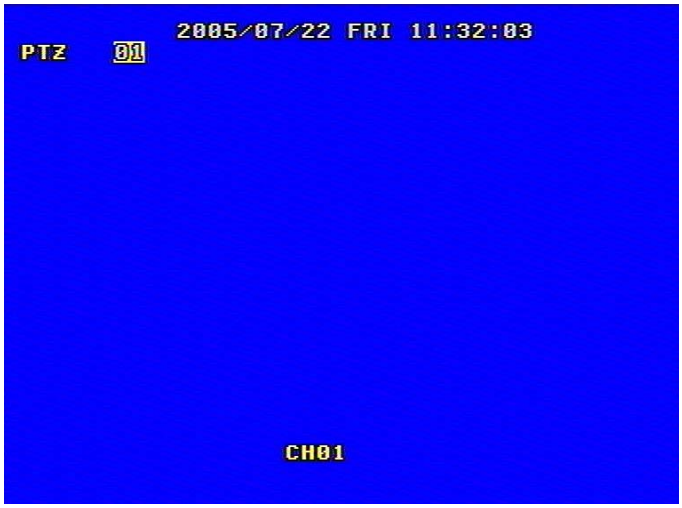
Press up, down, left or right buttons to move the zoom area and then press the “ENTER” button to zoom. Press the zoom button again to cancel zoom operation.

6.14 PTZ OPERATION

This DVR can control speed domes, which are connected to the DVR.

To control the speed dome make sure all the lines are correctly connected. First you must set the right **protocol, baud rate,** and the **speed dome’s address** for each speed dome, refer to 5.10 PTZ set.

PTZ can only be operated by remote control, press the PTZ button on the remote control,“PTZ” will be displayed on the screen, then select 1 to 16 to choose PTZ channel, the channel number will be displayed after “PTZ”. You can press up, down, left, right buttons to move the speed dome, and press the PTZ button again, or press the “ENTER” to stop. If you press the IRIS button, the word “IRIS” will appear on the screen. Then you can press the “+” and “-” buttons to change the IRIS and to control the focus, zoom, and speed of the PTZ camera. Press “ENTER” button to stop. Press the PTZ button one more time to exit from PTZ control. Please refer to picture below:



6.15 INFORMATION DISPLAY

In shift mode press the display button, the main information of the DVR will display on screen.

HDD SIZE: the size of the hard drive

HDD USED: the amount of used space on the hard drive.

HDD READ: current HDD address for playback

OVERWRITE: overwrite time of the HDD

NETWORK IP: IP address of the DVR.

REC LIST: number of record lists

EVENT LIST: number of event lists

REC OVER: record list overwrite or not

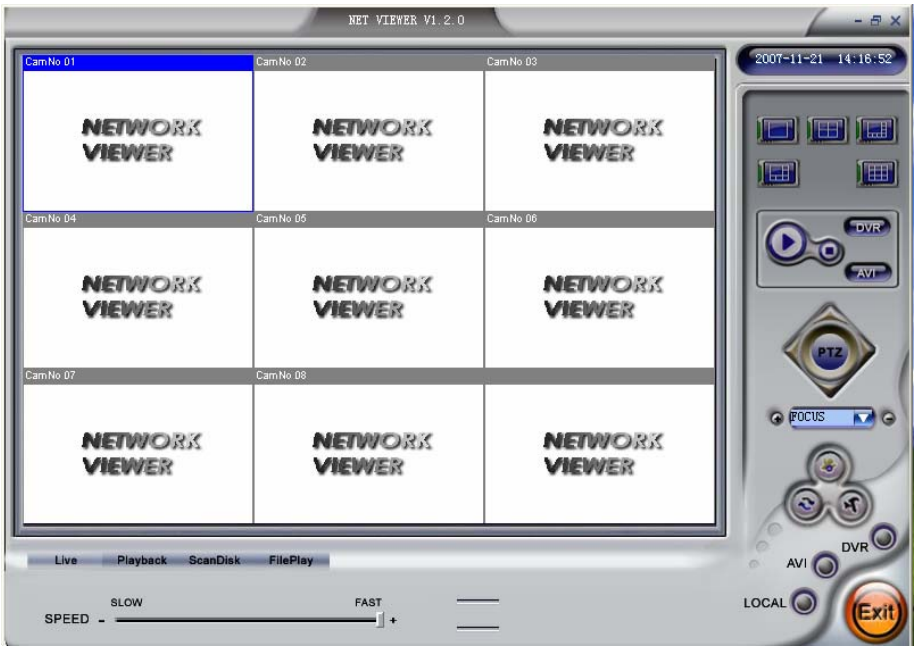
EVENT OVER: event list overwrite or not.

S/W VER: software version

7. Using the PC VIEWER SOFTWARE

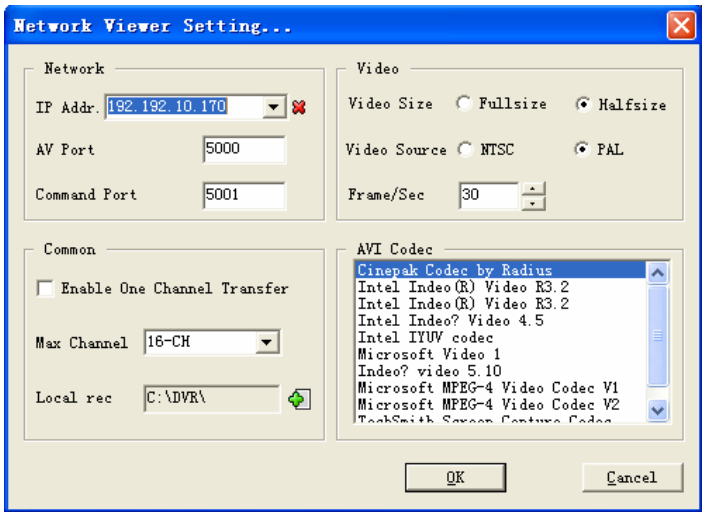
Using the PC Viewer software you can view the DVR over a network or the Internet. You can also view and backup the video information on the HDD to a computer.

When you open the software you will see the window below:



7.1 SETTINGS

When you click button you will see the window below: enter the IP address of the DVR for local access, or the internet IP address of the router for internet access, and click the “OK” button.

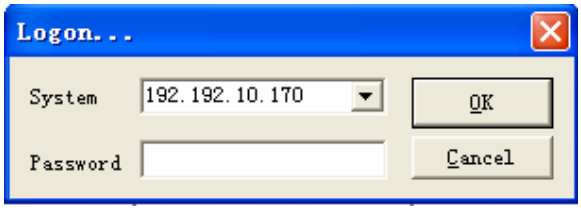


IP Addr: Enter the IP address of the DVR or router

Port: Set the communication port and AV port (5000 and 5001 by default)

7.2 CONNECTING TO DVR

Pressing the button will display the login box.

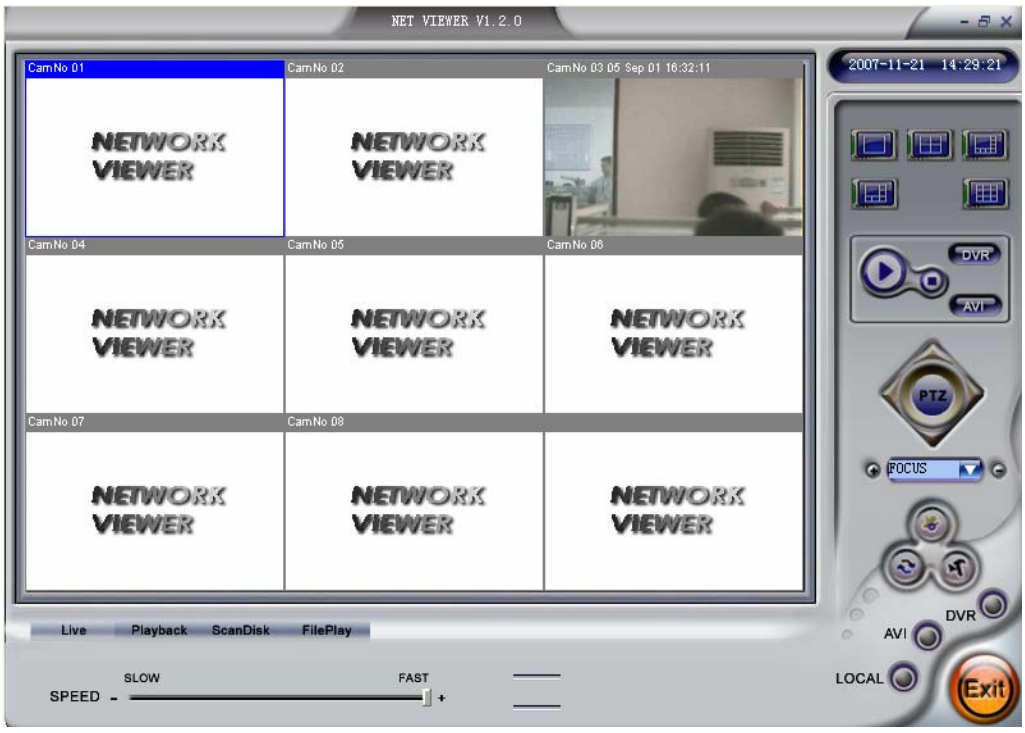


<Successful connection>

<Connect failed >

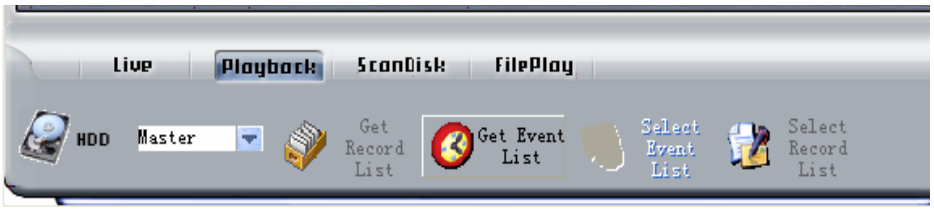
7.3 LIVE PLAY

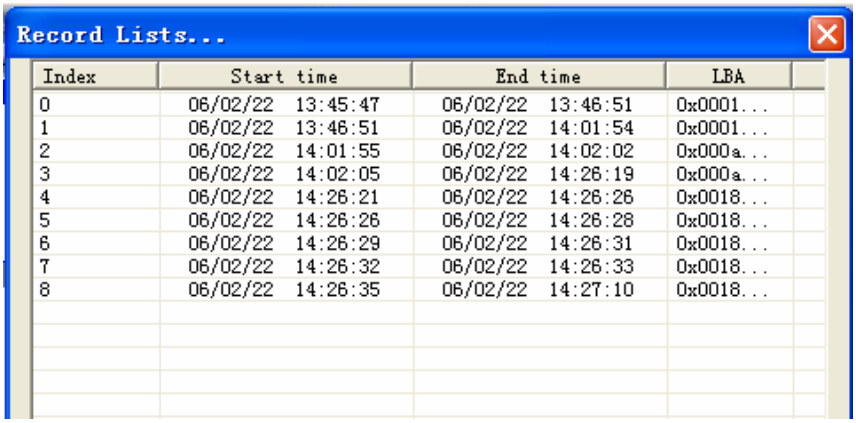
Once you have connected start the video by clicking on the play button.



7.4 PLAYBACK

Click the “Playback” button and the net search window will display. First you have to select the HDD of the DVR (first picture below). Click the “Get record list” or “Get event list”. If the DVR has record list you can see the second window below:





Double click a file on the record list and you will playback the video.

The event list operation is the same as record list operation

7.5 SCANDISK

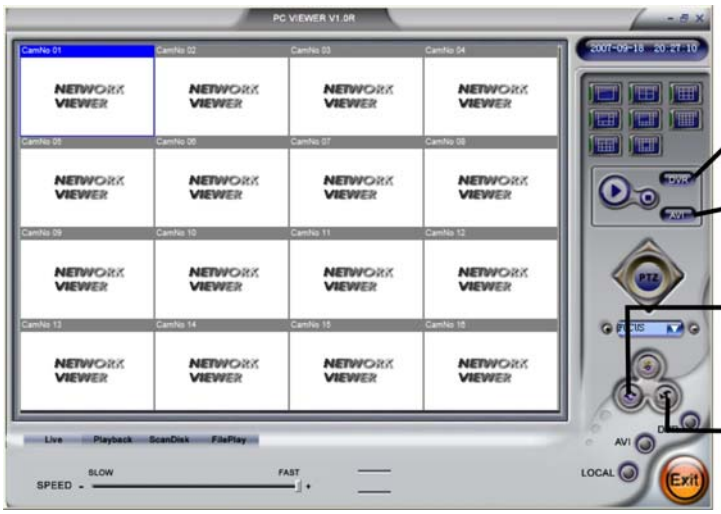
Connect the HDD that is used in the DVR to a PC and then select Scandisk. Scandisk window will display. Click and select the HDD and then you can play all the video on the HDD through the PC.

<Scandisk Menu>

7.6 FILE PLAY

Press the “File Play” button; you will see the picture below. Press the “open” button to play the video file on the computer.

< File play Menu>



1. By pressing this button you can record the video from the DVR to the computer.

2. Pressing this button will open the box below to save files as AVI.

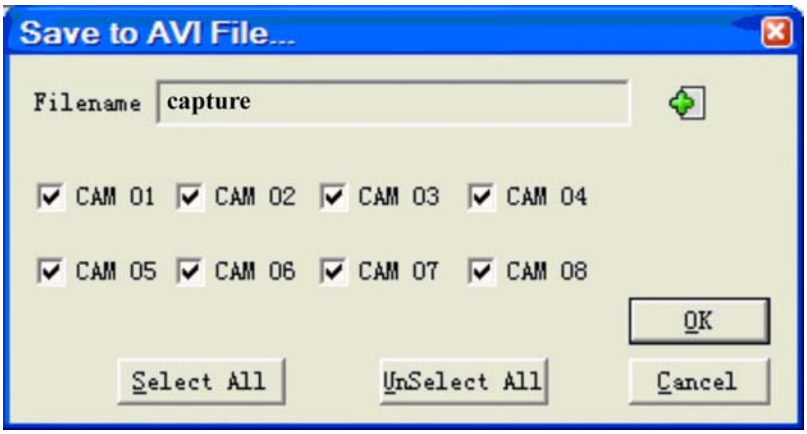
3. You press this button to start & stop playing video from the DVR.

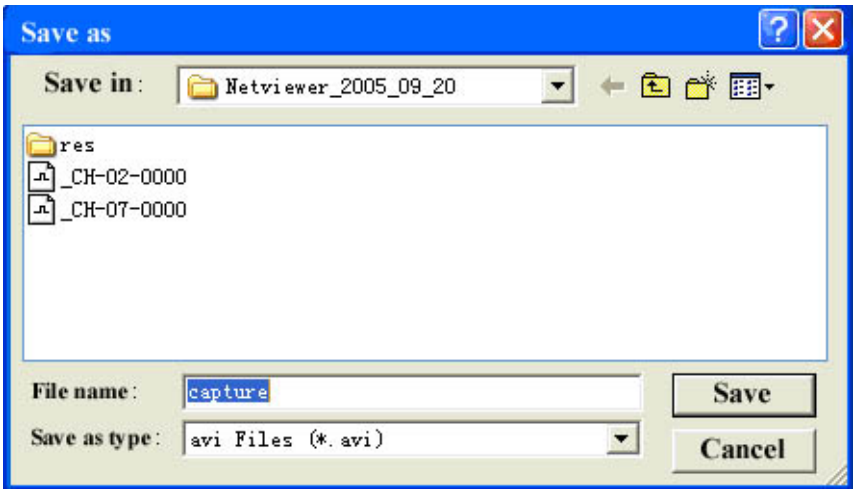
4. By pressing this button you can record files from the DVR to the computer’s HDD.

7.7 SAVE AS AVI

To save the video played on the PC Viewer as AVI format, create a filename and click on the green

plus sign after the filename to open the second dialog box to select a location to save the file. You can click the AVI button again to stop saving.





7.8 Save to PC Hard Drive

To record the video stream to your PC's HDD , just click" DVR" button and the video stream will be saved in the directory that you set (the default directory is c:\DVR\)

Notice: ***to play the file saved to DVR just click "FilePlay" tab to open it.***

8. SPECIFICATIONS

8.1 DVR

Item	Specification
Compressed picture	M-JPEG
Video signal	NTSC/PAL
Video input	Conposite:1.0Vp-p/75Ω,BNC×8/16
Video output	Conposite:1.0Vp-p/75Ω,BNC×2 S-VIDEO
Audio input	-8Db 22KΩ,RCA connector×4
Audio output	-8Db 3KΩ,RCA connector×2
Alarm input	16
Alarm output	1
Recording time	18-1680 hours/40G
Electronic clock	Year/Month/Day; Hour/Minute/Second
Secret function	Password protection
Update method	USB
Power source	DC12V 5A
Environmental temperature	Work:+5℃~+70℃ (+41F--+158F);humidity:<90％ Store:-20℃~+70℃ (-4F--+158F);humidity:<95％
Weight	5.3kg (11.7lbs) including power supply
Exterior size	430mmX400mmX90mm (17inX15.75inX3.5in)

8.2 CAMERA

Image Sensor: 1/4” Sony Color CCD

LED: 12 Infrared LEDs

Resolution: 420 TV Lines

Minimum luminance: 0.8Lux/F1.2

Signal System: NTSC

Lens: 3.6/6mm

Power Supply: DC12V

Dimensions: 68(w) x 68(d) x 92(h)mm (2.5x2.5x3.5in)

Operation Temperature: -20℃ - +50℃ (-4F--+122F)

Auto Gain Control: On/Off

Video Output: 1.0Vp-p 75Ω

Electronic Shutter: 1/50(1/60) – 1/100,000 second

S/N ratio: >48Db

9. TROUBLE SHOOTING GUIDE

Q. What kind of cameraS should I buy for this DVR?

A. Any BNC or RCA interface indoor/outdoor/infrared camera will work with the DVR. It doesn't matter whether it's a color or black/white camera. However web cameras that require a USB interface are not compatible with the DVR.

Q. What kind of alarm device should I buy for DVR?

A. Most sound alarms are compatible with our DVR.

Q. I can't turn on DVR.

A. Make sure that the power cord is plugged in correctly and the power light on DVR front panel is on.

Q. I see nothing but a blue screen after I turn on the DVR.

A. Check the camera input and video output connection on the DVR back panel. If you can't find any problem with these connections, check whether the camera's power cable is firmly connected. Make sure the system format for NTSC and PAL is correct.

Q. Can I prevent other people from stopping the recording while I am gone?

A. If the DVR is in schedule or recording mode set password to "on" in menu setup, no one can change the setting unless he has the right password.

Q. How can I erase all data on the hard disk drive?

A. Select the "HDD Format Set" option in the menu.

Q. Can my desktop PC read the video data on hard drive in the DVR?

A. Yes, you can use the PC Viewer software to read all video data on the hard drive.

Q. What happens if I install my PC hard drive into the DVR?

A. You can use a PC hard drive in the DVR. However once it runs in the DVR it will delete any PC operating system and files on the hard drive.

Q. What kind of hard drive should I purchase to use in the DVR?

A. Any PC compatible IDE, ATA hard drive with a capacity of 500GB or less will work.

Q. Does this DVR come with a remote control either hardwire or wireless?

A. Yes, there is a remote control with the DVR.

Q. Why can't I access Time/Date Set, HDD Format Set, Record Set menu?
A. Please stop recording or playing back before you access these menu.

Q. Why can't I access Network Set menu?
A. Please quit the connection of the PC Viewer software from the network or Internet before you access Network Set menu.

Q. I press the record button but the DVR does not start recording, why?
A. Press the display button to see if there is a hard drive detected, also if the DVR is in schedule mode (there is a "S" on the screen in yellow), you cannot start recording by pressing the record button, you have to press the schedule button to cancel schedule mode.

Q. I press the record button while recording but the DVR does not stop recording, why?
A. If the DVR is recording in schedule mode (there is a "S" on screen), you cannot stop recording unless you quit schedule mode first. Press schedule button to cancel schedule mode.

Q. There is movement in front of the cameras but the DVR does not start recording, why?
A. Make sure the motion enable setting of that channel is on and the area set is ok, the A/M rec time is not set to off, and the DVR is in schedule mode. Otherwise set the motion level to HIGH or VERY HIGH.

Q. When the network connection between DVR and client computer is cut off, why does the DVR freeze and clock stops?
A: If the network connection is cut off abnormally, the DVR machine will halt for 20 seconds without response from pressing the front panel buttons. 20 seconds later it will restore to normal state, but the icon that shows network status won't disappear for 10 minutes and during this period the client computer cannot connect to the DVR or enter the network menu.

Q. I hold down the "Menu/search" button, but it does not display the password menu and directly enters the menu, why am I not asked for a password?
A. If the password level setup in Password Setup is "NO USE" you do not need a password to enter the menu, if you want to require a password to enter menu setup, just change the password level to "SETUP".

Q. I press the menu button but it does not display the password menu to enter menu, why?
A. To enter the menu you have to hold down the "Menu/search" button, if you just press this button, you will see the search menu.

10. RECORDING TIME TABLE

Rec rate frame/sec	Picture Quality	Resolution	Recording time
60 fps	Very high	720	47 hours
60 fps	Low	720	125 hours
120 fps	Normal	360	47 hours
1 fps	Normal	720	4500 hours

Notice: The above figures are from our tests with a 250GB hard disk and are for users' reference.

Q-SEE PRODUCT WARRANTY

Thank you for choosing our products.

All of our product users have a conditional free warranty repair service for hardware within 12 months starting from the purchase date, and a free exchange service within one month (valid for manufacturing defects). Permanent upgrading service is provided for the software.

Liability Exclusions:

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(1) Equipment damage caused by improper operation

(2) Improper environment and conditions in/on which the equipment operates, e.g., improper power, environment temperature, humidity and lightening strike etc. that cause equipment damage.

(3) Damage caused by acts of nature: earthquake and fire etc.

(4) Equipment damage caused by the maintenance of personnel not authorized by our company.

(5) Product sold over 12 months ago.

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Postal code	
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E-mail	
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Serial Number of Product	
Purchase Date	
Distributor	

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